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ABSTRACT

Recent studies of reading and writing instruction suggest that literacy instruction is easily distorted, incorporating measures of achievement that do not reflect students' mastery of the process of understanding, reading materials that are ill-structured and divorced from any real communicative intent, and exercises in subskill learning that remain divorced from the intended achievements. An alternative model of literacy learning, based on the notion of instructional scaffolding, offers five characterstics of interaction that are critical to the success of activities in classrooms. These characteristics suggest that (1) the instructional task permits students to make their own contribution to the activity as it evolves, thus allowing them to have a sense of ownership of their work; (2) the instructional task grows out of knowledge and skills the students already have, but poses problems that cannot be solved without further help; (3) direct instruction in the form of questioning, modeling, or constructive dialogue helps the student develop a successful approach to the task; (4) the teacher's role in the instructional event is collaborative rather than evaluative; and (5) over time, instruction changes in response to the student's internalization of the patterns and approaches practiced with the teacher's assistance. (HOD)

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Literacy Instruction in American Schools: Problems and Perspectives

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Introduction

This examination of literacy instruction in American schools reviews major status studies conducted during the past ten years in the fields of reading and writing, and identifies some major themes that extend across them. These studies of instructional practice will be examined in terms of the notions of instruction that guide current practice, as well as in terms of recent notions of literacy. Recent research efforts will be reviewed in light of these views. Finally, the beginnings of an alternative view of instruction will be presented.

Notions of Literacy

While notions of literacy and what it means to be a literate individual have taken on different meanings at many points in our history (Resnick & Resnick 1977), it is argued here that throughout the 1900s, the underlying views of literacy instruction seem to have remained relatively stable, as have the underlying beliefs about teaching and

learning. During the first half of the twentieth century, issues in reading and writing instruction were essentially issues of curriculum: what should be taught, and how to evaluate the success of that teaching. Early analyses (Gray 1919; Thorndike 1917; Gates 1921; Pressey & Pressey 1921; Davis 1944; Richards 1929) were concerned with describing the skills students lacked, in order, simultaneously, to define the skills that should be included in the curriculum. Implicit in this model was an orientation that treated the purposes guiding the reading or writing activity as essentially irrelevant. That is, the activities themselves and the work that resulted from having engaged in those activities received the focus, while the functional aspects of that activity were largely ignored. Although the purposes may have remained unstated due to their perceived inherent relationship to the activity, the practice activities themselves tended to become separated away from the more complete and purposeful activities to which they initially belonged. At times the skills were thought to be best taught out of context, at times within the context of larger, meaningful units of text. At times the focus was on diagnostic testing to individualize each student's program of subskill learning, and at times all students were thought to benefit from exposure to the entire developmental sequence of skill training.

Although differing in their implementation, these approaches all viewed the teacher as a provider of information. They also relied heavily upon testing to determine what the students needed to know. The teacher's craft was one of knowing the range of skills, diagnosing what the students still needed to learn, providing instruction directed at the missing skills, and testing to see if the instruction had been effective.

This version of curriculum is based on an industrial metaphor, (Berliner 19?? Callahan 1962) and is often accompanied by a fairly complex management plan that controls the sequence of diagnostic testing, provision of appropriate instruction, evaluation, and reteaching. The materials and activities developed to accompany such a program are structured to provide students with myriad opportunities to practice what they cannot already do. With some shifts in emphasis across the years, this version of curriculum dominated instruction throughout the first half of the twentieth century, and was at the base of the curriculum reform movement in the 1960s.

By mid-century, however, an alternative model of the nature of learning in general, and of literacy learning in particular, was beginning to emerge in studies of cognitive and linguistic development. In particular, Piaget (e.g., Inhelder & Piaget 1956) and Bruner (e.g., Bruner, Goodnow,

& Austin 1956; Bruner 1974), in their studies of children's conceptual development, were beginning to argue that conceptual development is characterized by gradually more sophisticated, rule-governed systems of hypotheses or representations of the world, rather than by the gradual acquisition of separately identifiable skills that do not necessarily go together when the process occurs. In the field of literacy learning, this shift toward treating the child as an active problem solver led to a shift away from the identification of isolated skills that needed to be tested and taught, and toward a focus on higher order goals. This shift permitted consideration of ways in which a student's topical, structural, and pragmatic knowledge affects the processes of reading and writing. This concern with process -- the interpretations made, as well as the understandings that ensue--has dominated research in both reading and writing over the past two decades, though unlike the earlier studies of literacy, it has not yet had much effect on the world of instructional practice.

In part the detachment of this body of work from the instructional context is a function of its lack of focus on school-related tasks and problems. While the earlier work on learning grew out of instructional issues, the mid-century research focussed on issues of human learning and cognition in general. Perhaps because it lacked a direct

link with issues of schooling, the impact of this work on literacy instruction in schools has remained slight. The theoretical constructs do not provide models either of curriculum or of instruction; they focus on the learner, not on the teacher, and do not specify how or what to teach. "Process approaches" to both reading and writing instruction have been extrapolated from these studies, and have been a major theme in the pedagogical journals, but their status as research-based constructs is at best ambiguous, and, given the nature of the research base, to some extent misleading.

It has only been quite recently, with the incorporation of sociological and anthropological notions of literacy events and literacy environments into studies of learning (e.g., Cook-Gumperz, Gumperz, & Simon 1979; Heath 1983), that educational theorists and researchers have begun to reintroduce notions of context into studies of literacy learning, and thus to begin to provide a coherent framework for considering issues of literacy instruction -- of teaching as well as learning. While cognitive models of literacy learning have carried us quite far from our early views of curriculum, the tension in the translation of these views into instructional models is forcing the reconceptualization of new and more encompassing models of instruction -- models that can be incorporated into educational settings, and make a difference.

This article will be concerned with the state of literacy instruction, broadly defined, in American schools and classrooms. It will focus on students' ability to read and write for the many differing pragmatic and aesthetic purposes that reading and writing serve within our culture. Thus the concern here will be less on mastery of particular reading or writing subskills, and more on the differing contexts in which students are asked to read and write as part of their school experience, as part of the subjects they study as well as in their reading or language arts classes. Some of the major studies of the current state of instruction in reading and writing will be reviewed, and a description of what research has to say about classrooms, textbooks, and testing will be given -- as each relates to literacy instruction. Limitations inherent in current practice will be explored, and an alternative view of instruction will be suggested.

What Students Learn

Since 1969, the National Assessment of Educational Progress (NAEP) has collected information about the educational achievement of more than 1 million 9, 13, and 17 year olds in reading and writing as well as other subject areas. The results of the assessments of reading and writing suggest that literacy instruction in American

schools has been relatively successful, at least to the extent that success is defined in terms of the traditional basic skills (NAEP 1975, 1976, 1978, 1981a, 1981b, 1981c). In reading, students can respond adequately to literal and inferential questions about what they have read, and in writing they show adequate control of the mechanics of written language--grammar, spelling, punctuation, and usage. These skills are directly related to the curriculum subskills found in the early views of instruction described above; the relative success in these areas implies that students do indeed learn what we set out to teach them.

Yet if the National Assessment results suggest success with the basics, there are some disturbing undercurrents in the remainder of the results: tasks requiring higher-level critical thinking skills remain troublesome across the age groups studied, and students' commitment to reading and writing erodes as they pass through the educational system.

These trends are highlighted in a 1981 report, Reading, Thinking, and Writing. This report compared student performance on a range of tasks, all based on the same reading passages. Some tasks assessed initial interpretations and lower-level understanding, usually through multiple-choice questions. Other tasks asked students to explain or defend these initial interpretation, usually in brief paragraphs. Still others assessed

attitudes towards written language, either in general or in the context of specific reading selections. In a series of items, students were asked to read a poem or literary passage and then to answer one multiple choice question relating to an evaluation of that passage (whether they liked it or not), their judgments of character, plot, or mood, or the emotions or feelings the text provoked. The students were then required to write a paper defending or explaining why they responded to the multiple-choice question as they had; they were told to refer to their own personal experiences as well as information in the piece they had just read to explain their responses.

The results indicated that students at all three ages assessed (nine, thirteen, and seventeen) were able to comprehend a wide range of passages and to form their own judgments about the work they had read. At the same time, however, they had difficulty, across all ages, examining, elaborating, or explaining their ideas. While more than 70 percent of the students tested could answer a multiple choice question requiring them to draw an inference about what they had read, even at age 17 only 10 to 15 percent could successfully write an explanation or defense of why they answered as they did. As the report described the results,

Students seem satisfied with their initial

> interpretations of what they have read and seem genuinely puzzled at requests to explain or defend their point of view. As a result, responses to assessment items requiring explanations of criteria, analysis of text or defense of a judgment or point of view were in general disappointing. Few students could provide more than superficial responses to such tasks, and even the "better" responses showed little evidence of well-developed problem-solving strategies or critical-thinking skills. (NAEP 1981c, p. 2)

Results concerning student attitudes were equally mixed. On the one hand, almost all students were willing, in the abstract, to attest to the general value and utility of reading and writing activities. On the other hand, the older students read little for their own enjoyment, spent more time watching television than they spent reading, and preferred movies to books. Responses on an item that asked directly about enjoyment of reading were typical of many items in the assessment. At age 9, 81 percent claimed to enjoy it "very much"; by age 17, only 42 percent still claimed to do so.

These patterns of results are consistent across a variety of assessments: as items require more critical thinking, performance tends to decline, even among the groups that usually are considered to be advantaged (Barrow,

Mullis, & Phillips 1982, p.18). At the same time, students seem to grow increasingly disenchanted with the activities they are learning to master.

We can begin to understand these findings by examining some recent studies of reading and writing instruction. In general, the studies reviewed in the following section suggest that seatwork and paperwork abound, but that there is relatively little thoughtful interaction between teachers and students, between students and students, or between students and the ideas they are reading or writing about.

The Characteristics of Instruction

In a 1978 report to the Ford Foundation, Graves noted that American students are seldom asked to write. What writing there is consists of workbook exercises and drills emphasizing traditional subskills, such as penmanship, vocabulary, capitalization, punctuation, and grammar. There is similarly little emphasis on writing instruction; what passes for writing instruction is talk <u>about</u> writing -- teachers do not guide students in how to <u>do</u> actual writing, nor do they encourage students to write on their own. Graves mustered a variety of sources of evidence to substantiate his claims. In a survey of 17 year olds, for example, he found that three-quarters of them did not write anything at all in a two week period, while in another

survey of school systems reputed to stress writing, second graders averaged only three pieces of writing over a three month period, and secondary school students wrote even less frequently.

Applebee (1981), in the most comprehensive recent study of writing instruction in secondary schools, examined the students' writing activities in each of the major academic subject areas in a national sample of schools. He reported that while 44 percent of the observed lesson time was devoted to writing, those activities tended to require mechanical slot-filling or multiple-choice responses. Only 3 percent of class time was devoted to activities in which students were asked to write a paragraph or more, and almost all of that writing was done for purposes of examination. Patterns of emphasis in homework assignments were essentially identical. In general, extended activities with writing used as a vehicle for thoughtful explorations of the content being studied were almost never observed to occur.

In a follow-up study, Applebee (1984) and his colleagues studied teachers who had incorporated process-oriented literacy activities into their instruction in order to foster students' critical thinking about new concepts and deemphasize rote learning and recitation. Studying individual teachers over extended periods of time, the researchers found that a continuing emphasis on teaching

specific content and testing to evaluate the success of that teaching undermined the usefulness of the process activities. When grades were based on the accuracy of performance, students' attention focussed from the start on providing a polished performance--rather than on using process activities to extend their understanding of the concepts they were studying. Even in classrooms where the teachers believed in the power of writing as a tool for extending students' understanding, the students distributed their attention and interest in response to the grading system rather than in response to the teachers' stated goals. From the students' perspective, process-oriented explorations of new material were simply tasks to be completed in isolation from one another, with little perceived relationship to their final written products.

More recently, Applebee and Langer (Note 1) have extended this work to document the effects of using specific writing tasks to further student understanding of new concepts as part of the regular classroom curriculum. Teacher planning, classroom activity, curriculum "coverage," and patterns of student learning are being studied in high school science, social studies, home economics, and English classes, as they occur over time. Analyses of the first year's data have highlighted the complexity of instructional change. Even teachers who are deeply committed to giving

students a role in their own learning, who have sought new instructional approaches, and who are committed to the notion that writing can help foster learning are guided in their teaching by what Barnes (1976) calls a "transmission" view of teaching. In this view, the role of the teacher is to be the purveyor and evaluator of ideas, and the role of the student is to be the recipient of them -- with little room for the students to take an active role in interpreting or synthesizing what they are learning. The dominance of the transmission view of teaching is not surprising, since these beliefs govern educational interactions in America even at the university level; however they leave little room for the thoughtful cogitations that lead toward reasoned learning.

While students can be active learners in many different situations, the more restricted roles, which leave the student little room for active involvement in new learning, are equally evident in the teaching of reading. Durkin (1978-79), after studying reading instruction in 24 fourth grade classrooms, reported that almost no comprehension instruction took place; the teachers were assignment givers and checkers. Much of their teaching was in fact assessment, testing what students had understood by examining their responses to questions about the reading. Instructional time was spent giving, completing, and

reviewing assignments. Durkin also examined patterns of instruction during social studies lessons, but found that none of the teachers conceived of the social studies reading as a time to focus on students' comprehension skills. Instead, the concern was for covering the content and mastering the facts.

Durkin's findings are disturbing, even if one accepts the traditional instructional model in which curriculum is based on instruction in needed skills, followed by testing. What seems to be happening in the classrooms she studied is that the instructional phase of that model has virtually disappeared, being replaced by an incessant cycle of practice and testing. A study by Duffy and McIntyre (1980) can be interpreted similarly. After observing six primary grade teachers, they concluded that the teachers consistently monitored their students' reading development through the use of commercial materials, and that the major "instructional" activity was to check the accuracy of pupil responses. Duffy and Roehler (1982) reach similar conclusions in a later report.

Collectively, these studies of literacy instruction suggest that teachers perceive themselves as evaluators of student learning -- using brief answers to brief questions as indicators of learning. The pattern in written activities is similar to that in oral discussion, which

usually proceeds through cycles in which the teacher asks a question, a pupil responds, and the teacher provides an evaluation (Duncan & Biddle 1974; Mehan 1979). Further, the focus is on "coverage" of content as opposed to student learning (Clark & Yinger 1980; Peterson, Marx, & Clark 1978; Barr 1973-1974, 1975) and decisions in both instruction and evaluation are dominated by an implicit belief that coverage itself in some way constitutes (rather than correlates with) learning.

While there have been no experimental studies to directly examine the relationship between coverage and learning, the work of a number of ethnographers (e.g., Collins 1982; Cook-Gumperz, Gumperz, & Simons 1982; Erickson, 1977; Erickson & Shultz 1981; Green & Wallat 1981; McDermott 1977a, 1977b) has indicated that the classroom is in itself a socio-cultural context where communication is deeply intertwined with learning, and suggests that coverage needs to be considered in terms of how the student engages in the activity as well as its scope and frequency. Further, their work indicates that literacy instruction is differentially determined by who the students are. The restricted teacher and student roles described above by definition limit personal interaction and instructional dialogue; classroom routines proceed on the basis of brief and inherently predetermined responses (Collins 1982, Mehan

et al. 1982). The growing body of ethnographic studies suggests the need for literacy instruction to account for the differing language and world-views that students and teachers bring to school, and the particular language they use to convey their ideas to others; the communicative aspects of the learning environment play an important role in the instructional enterprise.

Instructional Models in Textbooks

Textbooks and their accompanying exercise materials play a prominent role in the traditional model of literacy instruction; they are one of the major sources of instructional and practice exercises, and often provide series of unit mastery tests for the assessment phase of the instructional cycle. Recent studies of textbook material make clear the limited nature of the roles they envision for teacher and student alike.

After completing the classroom study discussed earlier, Durkin (1981) examined the suggestions for comprehension instruction in the teachers' manuals that accompanied five major basal reading series. Findings were similar to those from her classroom observation study; the manuals gave more attention to assessment and practice of comprehension skills than to direct and explicit instruction. While they briefly alluded to procedures for teaching comprehension, they provided the teacher with

little to help students learn how to go about it. Based on these analyses, Durkin attributed the dismal findings of her classroom study to the absence of more overt instructional models in the teachers' manuals. The model of instruction used by the basal readers, she suggested, is based on the belief that children learn by practice rather than by receiving effective explanations and instruction.

Beck, Omanson, and McKeown (1982), after analyzing a number of basal reading texts and suggested lesson structures (Beck, McKeown, McCaslin, & Burkes 1979), redesigned a number of third grade reading lessons to include more content-oriented pre-reading preparation, accompanying pictures, and questions interspersed after each silent reading section. Their revisions were based on their views that prior topic knowledge aids comprehension, as does the highlighting of central content. They identified the key concepts and designed activities to activate or present these concepts before the students were asked to read the passages. Structured reading units were separated by activities designed to focus on key or upcoming events. Questions asked after each structured reading unit were designed to help the readers develop their own story maps. Both the revised and control lessons were given to 24 third graders each. Their findings suggest that comprehension benefited most from activities that helped students focus on

their own knowledge and that required their active involvement in the information-building process, in contrast to the types of activities suggested in the teachers' manuals.

Similarly, Langer (1981, 1982, 1984) developed a pre-reading activity at the request of teachers who found teachers' manuals inadequate in helping them bridge the gap between their students' knowledge and the material being presented in their textbooks. Langer's activity integrates instructional assessment with pre-reading instruction, and sets the teacher's role as one of listening carefully to what students say and creating conditions under which their text-related knowledge is brought to awareness and applied. Teachers are told how to select key concepts contained in a text, how to elicit knowledge about those concepts, and how to evaluate the extent of student understanding based on the responses given. Further, information about how to structure class dialogue to help students access or gain topic knowledge is also provided. This activity, involving active dialogue between teacher and student (Langer in press), was found to significantly raise available background knowledge and, in turn, to improve comprehension of moderately difficult material.

The writing assignments found in student texts call for no more student involvement than do the suggested

reading activities. Applebee (1984) examined high school textbooks to learn about the kinds of writing tasks students are asked to do after they have read an assignment. Ten trained raters rated the activities in the three most popular ninth and eleventh grade textbooks in seven separate subject areas. Across a variety of analyses, Applebee found that the majority of activities required only word and sentence level skills, and could be answered by rote repetition from material presented in the textbook. Activities requiring the text level language skills necessary for connecting ideas or developing extended arguments were minimal. Restricted writing activities (fill-in-the-blank and multiple-choice) abounded, and even when extended writing was solicited, it was generally optional rather than required. While a variety of restricted writing activities were used, Applebee found that across subject areas the short answer exercise requiring anywhere from a phrase to a two sentence response was the most frequent. Simple copying exercises played an important part in business education texts, while the emphasis in foreign language texts was divided between manipulation of syntactic constructions, responding to comprehension questions and comprehension drill requiring responses of two sentences or less. The range of extended writing tasks was limited, with few suggestions for personal or imaginative

writing. As in his study of classroom writing assignments, Applebee found that the predominant audience in textbook assignments was teacher in the role of examiner; no more than one percent of the exercises provided a wider audience for student writing. In general, Applebee suggests that the writing experiences provided in high school textbooks are even more narrow and limiting than the assignments observed in his studies of actual classroom practice.

Beyond the limited range of activities that textbooks provide, a number of studies have suggested that textbook passages are poor models of writing (Gilliland 1972; Redish 1979; Kintsch & Vipond 1977); the texts do not comply with either micro- or macro-structural conventions typical of their genre and are therefore poor models for either writing or reading. In particular, Anderson, Armbruster and Kantor (1980) suggest that subject area textbooks are "written by committee" - they are not written by someone who wishes to share a body of known information with the reader. This feature, in addition to the desire to include certain critical points of "curriculum" information and to comply with certain readability formulae, leads to a text that is difficult to read. Information tends to be presented in dense lists, without benefit of the elaboration necessary to make a point or provide a context. Arbruster and Anderson (1982) developed generic text structures that are

appropriate for historical discourse of topics generally included in social studies texts. Their historical structure follows the story grammar form of goal, plan, action, and outcome. It is their assumption that a textbook explanation of an historical event consists of a response to questions associated with each of the slots. For example, one instantiation of the structure they describe would look like this:

> During the 1670's, several English colonies were founded along the coast of North America. The first permanent settlement was Jamestown, established in 1607 in what now is Virginia. The second Plymouth, was set up in 1620 in what now is Massachusetts.
>
> These settlements were primarily commercial ventures, undertaken in the hope that the settlers might raise the products England had to import from the East and thus make the mother country more self sufficient. Commercially the North American colonies were disappointing; few of the original investors got their mioney back, to say nothing of making profits. (p.8)

The goal, Armbruster and Anderson state, is in sentence four: to become self sufficient. That same sentence also contains the plan, signalled by "in the hope that." The action is stated in the first sentence, sentences two and three are elaborations of the action, and the outcome is in

sentence five. In evaluating three textbook segments using this analysis, they found that two of the three did not meet their criteria for instantiation. In all three cases the events were described in detail, but the main ideas and explanations were largely missing.

Bruce, Rubin, and Starr (1981) suggest that readability formulae are at best unhelpful, and at worst detrimental, to both teaching and learning -- they cause writers to distort the texts they write and cause teachers to make inaccurate decisions about student/text matches. Further, tailoring apparently difficult texts to fit readability formulae may increase text difficulty by multiplying the number of inferences the reader must make (Davison et al. 1980). Instead of these text-based notions of readability, Rubin (1981) argues for the notion of conceptual readability; this focuses less on text characteristics such as sentence length and word length, and more on ways in which the concepts are presented. While syntax, word length and vocabulary have been shown to affect text difficulty, more recent views of reading comprehension suggest that ease of comprehension is also a function of the reader's knowledge and experiences, the topic, the construction of the text, and the contextual variables that affect and are affected by the purpose for reading and the environment surrounding the reading experience. These

factors call for a more complex, multivariate model for assessing text difficulty.

The Limitations of Tests

As we have seen, testing plays an integral part in the model of curriculum that dominates in most classrooms. Test construction is generally guided by what the test writers think should be taught; tests are used to diagnose the knowledge already attained, and to identify what to teach next, as well as to evaluate the success of the teaching (and the need for reteaching). Evaluation of student learning is deeply embedded in the exercises and activities that accompany textbooks, examined in the previous section. In addition, schools and districts tend to rely on formal testing programs to monitor educational progress and evaluate the effectiveness of educational programs. In a national study of testing in the schools, Dor-Bremme and Herman (1983) found that in elementary schools, 5 percent of available instructional time was devoted to testing as compared with 19 percent of the time in secondary schools. Principals were most influenced by standardized norm-referenced tests (as opposed to teacher-made tests), for use in communicating with parents and monitoring achievement in their schools. In secondary schools standardized tests were also used for class placement, though teachers reported they

had more confidence in their own judgments than in the results of the testing program. Both teachers and principals regarded mandated standardized tests as less useful than teacher-made tests and classroom observation data as a basis for making judgments about student achievement. While these findings could be interpreted as reason to consider discontinuation of standardized test use, it is more helpful to interpret them as a call for major reform of the content and goals of standardized tests -- as a mandate to develop tests that more closely reflect the curriculum goals of today, based upon the complex understandings of reading comprehension supplied by the past ten years work in discourse theory. (See Langer, in preparation, for elaboration of this issue.)

Other investigators have begun to question the validity of standardized tests as measures of achievement. Royer and Cunningham (1978) suggested a notion of "minimal comprehension" which views reading as a constructive process that necessarily involves an interaction between the reader's knowledge and the ideas presented in the text. With this notion in mind, they concluded that most reading comprehension tests do not distinguish between lack of background knowledge as opposed to lack of skill, and therefore are unable to meet the purposes the tests set for themselves. While there no doubt might be a correspondence

between lack of knowledge and lack of skills, the tests, as they are presently constructed, are unable to tease apart these critical components.

Also focussing on reader knowledge, Applebee (1971) and Tuinman (1974) independently showed that successful performance on reading comprehension tests is not necessarily attributable to reading achievemment; many of the items on standardized tests of reading comprehension can be answered simply on the basis of the reader's knowledge. It is possible to receive acceptable scores on some reading tests without reading the test passages at all.

Even when students do read the passages, it is unclear that the skills required are those drawn upon in other reading situations. Langer (in preparation, in press), in a text semantic analysis of multiple-choice standardized reading comprehension tests, has shown that the language and structure of reading test items create a host of unusual cognitive demands upon readers who are attempting to understand a passage and select appropriate responses to test items. She concluded that test items tend to be a genre unto themselves and make performance demands that are not generalizable to other reading situations. Her analyses reaffirm that test results cannot be used to understand the comprehension abilities of individual students; although there is a correlation between standardized test scores and

the ability to successfully process text, the tests neither measure the processes involved in the development of meaning from text nor do they evaluate a reader's ability to manage those processes.

Further, the theoretical constructs used in the development of test items are heavily text based and do not reflect ways in which readers' text-understanding develops, or how this understanding is used when readers answer questions about what they have read. One curious consequence is that although readers will usually try to answer a question by reasoning from their integrated understanding of a passage they have read, test questions meant to be easier often force them to resort to lower-level problem solving skills that do not reflect their general comprehension at all. Take the following test passage from the Gates MacGinitie Primary C, Form 1 reading test as an example.

> If a bronco buster wants to win a rodeo contest, he must obey the contest rules. One of these rules is that the rider must keep one hand in the air. A rider who does not do this will be disqualified.
>
> 1. A bronco buster who ignores the rules is
>
> 1) skillful 2) disqualified 3) chosen 4) winner

In the study, the students were asked to read the question stem, and to anticipate a response without seeing any of the

four choices, and then to choose among them. This was meant to be a literal question, presumably easy for students to answer because it is based on information directly stated in the text. However, Langer found that 67 percent of the students answered from their final understanding of the passage, the text world they had developed throughout the reading of the passage. All of the students in Langer's study (third graders) ended the passage with an envisionment of someone riding something -- with one hand in the air, and holding on to something; this was apparent when they were asked to "act out" what was happening in the passage. They used this knowledge as the basis for their response to the test question--whether or not they got the question right. Thus they explained:

> "He's disqualified 'cause he just ignores the rules."
>
> "That's what happens, you get kicked out if you don't obey the rules."

Similarly, in justifying "winner",

> "If you don't follow the rules you'll cheat and have a better chance to win."

The remaining students (33 percent) explained their answers by a simple visual match, pointing to the "disqualified" in the text, even though they did not know what the word meant.

Those students who returned to the text in order to answer the question relied simply on the visual match rather then remembering or rereading for "literal" meaning.

Langer (in preparation) describes a number of similar results, raising questions about ways used to describe comprehension complexity. Her findings suggest that readers do not necessarily act upon the assumptions upon which test items are based, and that specific test-taking skills that focus on word- or sentence-level matching sometimes play an unintentional role in successful performance, and may in turn receive an undue emphasis in instruction.

These criticisms of standardized tests do not challenge their role as predictors of subsequent achievement; in fact, current psychometric technology is quite effective in generating tests which function well in this role. What these analyses do challenge is the role of tests in the instructional cycle, as valid measures of skills that have been developed in a preceeding instructional session, or of skills that may need to be developed in a subsequent session.

To recapitulate, literacy instruction in the United States is structured around a relatively consistent notion of instruction, one that defines relatively clear roles for teacher and student. In this view, knowlege is conceptualized as a body of information to be transmitted from teacher to student; the role of the teacher is one of organizing that knowledge in as logical and efficient a manner as possible; and the role of the student is one of

remembering what has been imparted. This view carries with it its own technology, to organize the knowledge to be transmitted (textbooks and accompanying exercise material), and to monitor the success of the enterprise (through unit tests and the apparatus of standardized testing).

While this view itself may leave little room for criticism, the assumptions underlying it and its operation within the classroom may well be responsible for the instructional problems identified in the studies cited above. Findings suggest that in practice, the current view of instruction is easily distorted, incorporating 1) measures of achievement that do not reflect students' mastery of the process of understanding; 2) reading materials (primarily textbooks) that are ill-structured and divorced from any real communicative intent; and 3) exercises in subskill learning that remain divorced from the broader ends the subskills were originally to have furthered. A number of characteristics of student learning can also be traced to these distortions: 4) while lower-level literacy skills seem to be well-learned, higher-level skills remain underdeveloped; and 5) students tend to be disengaged from the subject matter, and from reading and writing in general.

Rather than simply a scenario of ineffective implementation of instruction, these characteristics seem to

be logical outcomes of a view of instruction in which knowledge is conceptualized as separate from the meaning-laden whole, and in which the relationship between teacher and student is seen as one of conveying knowledge rather than mutually exploring their interpretations. And this in turn leads to a search for an alternative view that is more consistent with current understanding of the process of language learning, as well as with the goals of fostering language and reasoning skills.

Toward an Alternative View of Effective Instruction

In response to findings such as those described above, Langer and Applebee have begun to develop an alternative view of effective instruction (Note 1). Their concerns are not so much with psychological models of learning as with the context of the classroom; their criticism of what they have been finding in schools (Applebee 1984) is based upon the implicit models from which teachers seem to be working from. These models have complex roots some of which may be representative of major psychological models such as Bloom's work on mastery learning (1971), Gagne's work on the conditions of learning (1977), or Goodwin and Klausmeier's work on facilitating student learning (1975). However, Langer and Applebee's studies of classrooms suggest that the teachers' use of these models is erratic, and may at times

misrepresent the behaviors the authors intended. Rather than questioning the existing psychological models, the emerging view of effective instruction presented here is being developed for different purposes, as a "model-in-context." It posits a view of instruction that is contextually imbedded and articulates with day-to-day practice as well as with the psychological and linguistic literatures. It offers a bridge between the worlds of theory and practice.

The model views literacy learning as an extension of earlier child language processes, and places the concomitant instructional issues within the frameworks of language learning. Studies which have analyzed the principles underlying successful instructional dialogue are the most relevant here. The notion that dialogue can function as a "scaffold" to support early language learning was developed by Bruner and his colleagues (Bruner 1978; Ninio & Bruner 1978; Ratner & Bruner 1978) who used it to examine adult/child dialogue. They described how the child learns more sophisticated language functions through supportive dialogue in which the mother extends the child's new language skills and prevents the child from sliding back to earlier forms. Wertsch (1980), elaborating on the work of Vygotsky (1962, 1978), similarly focuses on the role of social interaction in the development of language and thought. His work suggests there is a gradual

internalization of the assistance provided by the adult, with the child not only responding correctly to the adult's directives, but actually taking over the responsibilities of the adult in "talking through" the steps of the task. Studies such as these suggest that in language learning, the presence of a supportive dialogue allows the child to accomplish tasks that could not have been accomplished alone, and at the same time, allows the child to internalize procedures that lead toward later independent performance.

Similar to these patterns in child language development, the most successful literacy instruction observed by the Langer and Applebee project team occurred when the students and the teacher had shared understandings of the specific goals of an instructional activity, as well as a shared sense that the activity required a collaborative interaction if it was to be completed successfully. (See Palinscar and Brown, in press, for a similar argument.)

Langer and Applebee have used the concept of instructional "scaffolding" as a way to examine the nature of instructional interaction. This concept can be applied to the range of instructional settings that occur in schools - from the dialogue that takes place between teacher and students to the practice activities in students' texts and workbooks. The scaffolding provided in any given situation can be more or less structured, and more or less effective.

The notion of scaffolding provides a framework for recognizing significant dimensions of instruction - dimensions that Langer and Applebee have described in the context of particular classrooms, and the direct effects of which can be manipulated and tested in controlled studies. This view of instruction makes it possible to separate, and separately assess, the information provided from the manner in which it is delivered in instructional settings.

The notion of instructional scaffolding builds on analyses of the characteristics of parent/child interaction that contribute to the rapid pace of early language development, adapted to the somewhat different tasks inherent in formal schooling. Applebee and Langer (Applebee and Langer 1983; Langer and Applebee 1984) have described five characteristics of instructional interaction that were critical to the success of activities in the classrooms they studied, but that were often lacking in the activities the teachers planned:

1. Student Ownership of the Learning Event - The instructional task must permit students to make their own contribution to the activity as it evolves, thus allowing them to have a sense of ownership for their work. They must develop their own reasons for participating in the activity rather than simply completing the task because it has been assigned by the teacher.

The notion of ownership does not preclude the teacher's introducing an activity. The activities introduced, however, must leave the student room to make a contribution beyond simply repetition of information or ideas drawn from the teacher. For example, the assignment can provide room for the student's value judgments or for reorganization of the content being studied: "Write a newspaper article giving critical information that you feel will be helpful for people who are deciding for whom to vote." This contrasts with an assignment that restricts the student to information previously presented by the teacher or textbook, e.g., "Write an election article telling who the candidates are, the parties they represent, and their major platforms."

2. Appropriateness of the Instructional Task - The instructional task must grow out of knowledge and skills the students already have, but must pose problems that cannot be solved without further help. The task, then, needs to be sufficiently difficult to permit new learnings to occur, but not so difficult as to preclude new learnings.

3. Supportive Instruction - Once the student and teacher understand that help is necessary, direct instruction in the form of questioning, modeling, or constructive dialogue is offered to help the student develop a successful approach to the task. The student learns new skills in the process of doing the task in a context where

instruction provides the scaffolding or support necessary to make the task possible.

4. Shared Responsibility - The teacher's role in the instructional event needs to be more collaborative than evaluative. It is one of helping students toward new learning, rather than of testing the adequacy of previous learning. The teacher's responses to student work help the students rethink efforts and rework ideas as they move toward more effective solutions to the problem-at-hand.

5. Internalization - Over time, instruction should change, in response to the student's internalization of the patterns and approaches practiced with the teacher's assistance. (Too often, "effective" lesson patterns become an unchanging part of the instructional routine, for sequences of textbook lessons as well as for individual teachers. In these cases, students are "helped" to do things they can already do on their own.) Instruction must be sensitive to the fact that as students gain new knowledge and skills, the instructional interaction should change as well. The student's contribution to similar tasks will increase while the teacher's concerns will shift toward more sophisticated issues or approaches. The amount of dialogue may actually increase as the student becomes more competent, with the interaction shifting from simple questions or directives toward a more expert exploration of options and

alternatives.

This view of instruction permits a fusion of the need for direct instruction in new skills with the recent concern with reading and writing processes. The critical feature is that the instruction take place in a context where student as well as teacher has an active role to play in the literacy event. There must be room for a shared exchange of ideas between teacher and student, and an underlying understanding about their roles and goals -- who needs the help, who gives the help, what help is needed, and why.

Once engaged in this model of instructional scaffolding, student and teacher roles necessarily change, and along with them, the nature of lessons and learning change--instruction takes on a different face that requires new uses of materials and new ways to assess whether learning has taken place. In this model of instruction, the teacher retains the role of planner and initiator of classroom activities. However, the activities need to be planned to provide scope for the students to develop their own purposes rather than simply providing responses to fit into the teacher's predetermined framework.

The notion of instructional scaffolding is useful in examining the teaching of Jane Martin, a high school social studies teacher who has been participating in the Langer and Applebee study. During the first year of work with one of

Ms. Martin's classes, a research assistant observed 28 lessons, held 12 planning sessions with her, and conducted 55 interviews with her students. Jane Martin was an experienced teacher with a reputation as one of the most successful teachers in her district. The mood of her class was always positive; she and her students shared a mutual liking for one another. As teacher, Ms. Martin saw her role as provider of information, while protecting her students from failure. To do this, she established a highly controlled learning environment where the students were expected to display their new learnings in a predetermined structure.

As an example of Ms. Martin's teaching, consider an assignment on China that required two weeks to complete, and that resulted in papers that were unusually long for her class. Martin's assignment sheet was labeled "The Big Paper," and it opened with this statement: "WE, and I do mean WE, are going to write a paper." There followed a two-week calendar with due dates:

Tuesday: Instructions given,

Wednesday: Turn in thesis statement with three good supporting arguments by the end of class,

Thursday: Flesh out your thesis and try for a rough draft,

Friday: Rough drafts due at the start of class;

Tuesday: Group work on corrected drafts,

Thursday: Polishing of rough drafts;

Friday: Final papers due at the start of class.

Martin monitored each stage of the writing process, with corrections and suggestions made along the way. Jenny's outline (her thesis and three supporting arguments) looked like this:

Looking ahead in China's future, some important things are starting to develop:

A. health
   1) women and men are doctors
   2) more research
   3) trained doctors

B. Equality between men and women
   1. jobs
   2. divorce
   3. living arrangements when married

C. Education
   1) required to have an education
   2) military training is required
   3) college is open to all people

Jenny was late submitting her outline to Martin, and Martin was late getting it back to Jenny. Interviewed mid-way in the second week, Jenny reported that she could not go forward with her work because:

> (Ms. Martin) still hasn't checked my outline. I started doing my rough draft and then Mike (another student) said I really shouldn't because she hasn't checked my paper and I don't know if I'm doing it

right.

The next day, Jenny received approval for her outline - an OK written on the top of the page with "this needs to be reworked" next to the first sentence and "good proofs" near the bottom of the page.

Jenny's final paper, with her arguments given advance approval, was quite predictable in content. The last paragraph read:

> In conclusion, China's future is definitely looking better. There is more equality between the sexes, more medical research, and a better educational system.

Tom, on the other hand, had a different kind of problem. At first he was excited about his topic. He said,

> I knew I wanted to write something toward China the promised land or getting better, 'cause that's the way (Ms. Martin) made it look--you know, the way she set it up like a little formula with a main topic and supporting details. So it was just a matter of getting the the facts together.

However, at the rewriting stage, he needed some help.

> The hard part was rewriting it after (Ms. Martin) made corrections...cause I had to restate some things that I really didn't understand how to restate. I didn't know how she wanted me to do it.

Eventually, he had a conference with the teacher, and she told him what to include. Tom wrote in the restatements as Martin suggested them, and copied the entire piece over as a final draft.

While both papers were long and coherent, the students spent surprisingly little time actually thinking about what they were going to write, points they wished to make, or ways to organize or present their information. Their roles were rather passive: they were required to know what was expected, to keep track of the information presented in class and in the textbook, and to transcribe it rather than use it to extend or develop new meanings. Both students received good grades, both felt they had done what had been asked of them--and Martin felt her students had learned the China section of the curriculum.

Somehow, though, the students knew, and Jane Martin came to realize, that although they had gotten through this assignment, and likely could get through many other assignments like it, there was something missing.

If we consider this instructional sequence in terms of the criteria of effective scaffolding, two problems are immediately apparent. First, and in this case most important, the sequence subverts the students' attempt to take ownership for what they are doing. Even Tom, who began with considerable excitement, soon found himself tracing out

the argument Ms. Martin wanted rather than developing his own. At its most extreme, though relatively typical in this class, this even involved accepting the teacher's rewordings without understanding what they meant. Tom could have taken ownership for his writing by selecting a topic or form in which to present his own responses to Martin's assignment. Instead, he wrote about the ideas he thought Martin expected, in ways she expected them to be presented. Martin's reasons for keeping such total control were benevolent ones, stemming from her concern with protecting the students from any kind of failure. At the same time, unfortunately, she also protected them from something quite basic to literacy learning -- students learning to manipulate and control their own ideas in ways they could not have done before.

The second problem stems directly from the first: the sequence Martin planned provided too much support, helping the students accomplish what they should have been learning to accomplish without help. Again in her concern with protecting them from failure, she failed to remove the scaffolding after it was no longer needed. While students in her class needed considerable help in organizing their writing, they also needed room to change ideas, add new ones, and reorganize the piece as the writing developed. The structure Martin provided left no room for that to occur.

Both these problems derive directly from the instructional model from which Ms. Martin was operating. As teacher, she had information that must be provided to the students; as students, they had to demonstrate they had learned, and could recite, the information she had provided. That the level of engagement in the task, as well as the level of intellectual activity, remained low seems a relatively direct consequence of her assumptions about instruction.

This lesson is not unlike those observed in other classroom taught by other teachers. The teacher's role and the student's role are not unlike those reported in the many status studies we reviewed at the beginning of this article. It is another example of the fact that in the instructional models upon which literacy instruction is currently based, higher level thinking and reasoning have no place. They are not purposely being overlooked--they simply are not what counts. They are not where instruction starts, nor are they what is evaluated as a measure of success. To change this requires more than simply ringing variations on current models of instruction; it requires a reconceptualization of the role of teacher and student in instructional interaction. The notion of instructional scaffolding is one beginning, where the teacher is directly involved in providing instructional support, but where thinking and

learning belong to the student.

Summary

The studies reviewed here suggest that literacy instruction in the United States limits students' opportunities for thoughtful engagement in reading and writing tasks. Reading and writing activities require "right" answers more often than an elaboration of ideas, and instruction focuses more on checking the correctness of responses than on helping students extend their learning. An alternative view of effective instruction, grounded in part in studies of instruction and in part in the child language literature, has been suggested as a way to begin to move beyond the limitations apparent in current practice. The notion of instructional scaffolding provides both a framework for analyzing ongoing instruction, and a metaphor that teachers may find helpful in reformulating their practice. Unlike the notions of curriculum that underlie current practice, instructional scaffolding leaves room for encouraging higher-order reasoning as well as the basic skills. It may also offer a way to integrate recent scholarly attention to reading and writing processes with the practical and pressing concerns of the classroom.

Notes

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